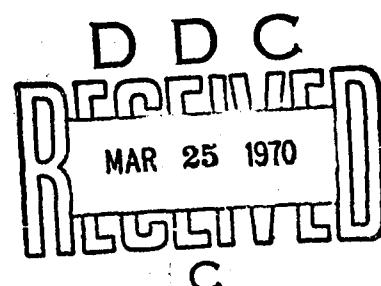


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ALTERNATIVE FUTURES AND PRESENT ACTION

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A POLICY SCIENCES VIEW OF FUTURE STUDIES: ALTERNATIVE
FUTURES AND PRESENT ACTION

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ABSTRACT

THIS PAPER DISCUSSES SOME MAIN ISSUES OF POLICY-ORIENTED FUTURE STUDIES, FROM A POLICY SCIENCES POINT OF VIEW. POLICY-ORIENTED FUTURE STUDIES FACE FOUR MAIN ISSUES: (A) SALIENCY TO POLICYMAKING; (B) CREDIBILITY; (C) TRANSFORMABILITY INTO POLICYMAKING INPUTS; AND (D) DESIRABILITY BY THE POLICYMAKING SYSTEM. RESOLUTION OF THESE ISSUES REQUIRES MANY CHANGES IN THE POLICYMAKING SYSTEM, IN FUTURE STUDIES, AND IN THE INTERFACE BETWEEN THESE TWO. LIMITING ITSELF TO MAIN CHANGES NEEDED IN FUTURE STUDIES, THE PAPER ARRIVES AT FIFTEEN GUIDELINES FOR POLICY-ORIENTED FUTURE STUDIES: (1) ALTERNATIVE FUTURES SHOULD BE RELATED TO PRESENT DECISIONS; (2) MATTERS OF ACTUAL OR POTENTIAL POLICY CONCERN SHOULD BE DEALT WITH; (3) "LOOK OUT" FUNCTIONS SHOULD BE ENGAGED IN; (4) ALTERNATIVE FUTURES OF CRITICAL ISSUES SHOULD BE EXAMINED EVEN IN THE ABSENCE OF LINKS WITH THE PRESENT; (5) ALTERNATIVE FUTURE VALUES SHOULD BE EXPLORED; (6) ALTERNATIVE COMPREHENSIVE FUTURES SHOULD BE DEVELOPED; (7) SIGNS OF

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FUTURE STUDIES QUALITY ARE NEEDED; (8) COMMUNICABILITY AND ACCESSIBILITY SHOULD BE INCREASED; (9) FUTURE STUDIES METHODOLOGY SHOULD BE ADJUSTED TO POLICYMAKING NEEDS; (10) ALTERNATIVE FUTURES OF POLITICAL FEASIBILITY SHOULD BE EXPLORED; (11) FORMATS FOR PRESENTATION OF FUTURE STUDIES FINDINGS FOR POLICYMAKING USE SHOULD BE DESIGNED; (12) CHANGES IN THE PUBLIC POLICYMAKING SYSTEM NECESSARY FOR MAKING FUTURE STUDIES INPUT DESIRED AND USED SHOULD BE STUDIED; (13) ALTERNATIVE FUTURES OF THE POLICYMAKING SYSTEM SHOULD BE EXPLORED; (14) POLICY-ORIENTED FUTURE STUDY SHOULD BE AWARE OF ITS LIMITATIONS AND DANGERS; AND (15) POLICY-ORIENTED FUTURE STUDIES SHOULD PAY MUCH ATTENTION TO PROBLEMS OF INTERFACE WITH POLICY-MAKING IN CLOSE RELATION WITH POLICY SCIENCES AS A WHOLE.

PREFACE

This paper looks on future studies¹ from the point of view of policy sciences.² From this point of view, improvement of policymaking is regarded as the main mission of future studies. The policy sciences approach to future studies does not exclude other goals for future studies, such as satisfaction of human curiosity, and recognizes socio-psychological functions of future studies, such as reassurance and catharsis. But I do think that the main mission of future studies should be to contribute the improvement of policymaking and that the main test of future studies should be its impacts on policymaking.

Looking at future studies as a policy-oriented activity does not imply a narrow conception of the nature and scope of future studies. Contributions to policymaking can, and often should, be long-range and indirect, for instance by broadening the frames of appreciation³ of policymakers and by sensitizing them to long-range perspectives. Nevertheless, looking at future studies as contributions to policymaking does have operational implications for the contents and methodology of future studies

¹I prefer the term "future studies" to "futurology," "futuristics," "technological forecasting," etc., to avoid both popularized connotations and technological annotations.

²On policy sciences, see Harold O. Lasswell, "The Emerging Conceptions of Policy Sciences," Policy Sciences, Vol. 1, No. 1, Spring 1970, in print, and Yehezkel Dror, "Prolegena to Policy Sciences," Policy Sciences, Vol. 1, No. 1, Spring 1970, in print. (Earlier version, RAND Paper P-4283, January 1970.)

³The concept of "frame of appreciation" and the necessity and possibility to improve policymaking through educating (in the broad sense of the term) the frames of appreciation of policymakers is well presented in Sir Geoffrey Vickers, The Art of Judgment, New York: Basic Books, 1965.

and for the organization of future studies as a discipline of study and teaching and as a profession.

This paper is devoted to examination of some implications of a policy sciences view for the contents and methodologies of future studies. Implications of a policy sciences view for the organization of future studies as a discipline and as a profession and for the structural aspects of the interface between future studies and the policymaking system will also be indicated, but not elaborated in detail.

The main conclusions arrived at in this paper are presented in the form of guidelines for policy-oriented future studies. These guidelines do apply to policy-oriented future studies in the aggregation and not to each single study. They are intended to provide heuristic aids rather than detailed instructions. But hopefully they should serve to concretize and operationalize the concept of "policy-oriented future studies" and help in their advancement.

MAIN ISSUES

A tacit assumption widely shared by future scholars seems to be that "good" future studies are sure to reach policymakers and to influence policymaking. This assumption is the only reasonable explanation one can offer for the surprising neglect of the issues of interface between future studies and real-life policymaking by most future scholars.⁴ But this tacit assumption is a fallacy, because of the strength of various barriers which operate against consideration of future studies in policymaking. Some of these barriers face all consideration of the future

⁴ This generalization does not apply to policy analysts who move from concern with policy issues to interest in future studies. Thus, the works of Herman Kahn include many bridges between policymaking and future studies, within a broad framework of policy sciences. Especially important is the statement by Kahn and Wiener on the objectives of future-oriented policy research:

1. To stimulate and stretch the imagination and improve the perspective.
2. To clarify, define, name, expound, and argue major issues.
3. To design and study alternative policy "packages" and contexts.
4. To create propaedeutic and heuristic expositions, methodologies, paradigms, and frameworks.
5. To improve intellectual communication and cooperation, particularly by the use of historical analogies, scenarios, metaphors, analytic models, precise concepts, and suitable language.
6. To increase the ability to identify new patterns and crises and to understand their character and significance.
7. To furnish specific knowledge and to generate and document conclusions, recommendations, and suggestions.
8. To clarify currently realistic policy choices, with emphasis on those that retain efficiency and flexibility over a broad range of contingencies.
9. To improve the "administrative" ability of decisionmakers and their staffs to react appropriately to the new and unfamiliar." (Herman Kahn and Anthony J. Wiener, The Year 2000: A Framework for Speculation on the Next Thirty-Three Years, New York: Macmillan Company, 1967, pp. 398-399. For a detailed discussion, see pp. 399-409.)

dimensions, whether presented in the form of future studies, longer range plans, or pressures by future-oriented interest groups.⁵ Some barriers are more specifically active in respect to explicit future studies. Together, the different kinds of barriers constitute a very strong insulation of policymaking from future studies, virtually assuring zero-impact by the latter unless the barriers are broken down or a way around them is laid.

In a broad sense of the term, four main clusters of barriers to consideration of future studies in policymaking can be identified:

(1) Future studies not salient to policy issues; (2) future studies not credible; (3) future studies difficult to use; (4) future studies undesirable. We will present our policy sciences view of future studies through examination of the issues created by these four clusters of barriers and of ways to resolve the issues.

Saliency of Future Studies for Policy Issues

The requirements of saliency of future studies for policy issues include (a) linkage between the present and alternative futures; and (b) relevance of future studies to actual or potential present main policy concerns. These requirements are a matter of degree, because long-range perspectives may be salient for policy issues by sensitizing and educating frames-of-appreciation of policymakers, a function the importance of which I have already mentioned. But for more concrete and specific inputs of

⁵ The sudden upsurge of pollution concern illustrates a related tendency: When pressures are strong enough to break through the barriers, positive feed-back may occur and result in one-sided exaggerations, instead of the needed systematic consideration of different alternative futures in relation to complex policy choices.

future studies into policymaking, more is required. And even broad frame-of-appreciation shaping future studies must have some linkage to the present and some relevance to potential policy concerns.

The requirement of linkage involves some explicit causal relations between present decisions and the considered futures. When the future is independent from present decisions or when the dependencies of the future on present decisions are too vague and too uncertain to permit identification of some connecting links with some degree of assurance -- then that future is not salient for present policymaking.

This is an especially important requisite because of the not uncommon tendency of future studies (and of much long-range planning) to "escape into the future" by designing various states of the future which cannot be related to the present in any meaningful way. I do not wish to imply that Utopias or anti-Utopias are unimportant; they may fulfill very important social functions, including long-range effects on policymaking through changes in public values and mass opinions. But such functions of future dreaming must be kept distinct from the roles of future studies in respect to policymaking. Invention of new futures is an essential element of policy-oriented future studies, as are more "scientific" forecasts and predictions. But for policy purposes it is essential that the various normative futures as well as the forecasted futures be relatable to present decisions -- either as a goal to be aimed at or as an expected state of the future to be taken into account.

The relationships between the present and alternative futures can be presented in various forms, such as time curves, bands and envelope curves; scenarios; or verbal descriptions. Usually the relationship

will be stochastic rather than deterministic, and conjectural rather than reliable. But some time series of situations and developments which show possible relations of the alternative futures to present actions are essential, with one exception which I will soon discuss. This is the justification of the following guideline for policy-oriented future study:

Guideline No. 1. Policy-oriented future study should explicitly relate alternative futures to present decisions (subject to Guideline No. 4).

Some dependence of an alternative future on present action is essential for policy saliency, but insufficient by itself. If alternative futures deal with phenomena which are uninteresting in terms of the values of contemporary and emerging policymaking systems, or are trivial in terms of those values -- then these alternative futures have little saliency for policymaking. This is the case even when clear links do connect those alternative futures with present decisions. Therefore, policy saliency requires that future study should be relevant to policy concerns, actual or potential. "Actual" -- these are perceived and recognized concerns which in fact are dealt with through policymaking, never mind if more or less adequately. "Potential" -- these are issues which are relevant to policy values and would be a matter of policy concern if more information would be available or/and if policymaking would be of higher quality. In some respects a most important contribution of future studies to policy improvement may well be transformation of potential policy concerns into actual policy concerns through what is called the "look-out"⁶ function. This look-out function involves identification of possible future

⁶ See Robert Jungk, "Outline for a European Look Out Institution," proposal prepared for the Council of Europe, June 1967.

developments which require present action, to inhibit undesirable futures and support desirable futures.

Guideline No. 2. Policy-oriented future study should deal with matters of actual or potential policy concern.

Guideline No. 3. Policy-oriented future study should engage in "look out," that is, identification of important policy issues which are not recognized as such because of unawareness of possible future developments.

Here we reach an important exception to Guideline No. 1, which requires that policy-oriented future studies should explicitly relate alternative decisions to present decisions. When a very important policy concern is involved, the null hypothesis is very important. Showing that the alternative futures of the subject of concern are quite independent from present decisions is extremely important. It should lead to one of three conclusions or a mix between them.

(a) To initiate intense search for new ideas and new knowledge which may provide links between present decisions and alternative futures, and thus permit efforts to influence the latter; this may involve new alternative futures, new links between present decisions and given alternative futures, or a combination of both.

(b) To broaden the concept of "present decisions" by transforming factors which are regarded for ideological, political, or technological reasons as beyond resetting⁷ into policy instruments which are subjects for "present decisions."

⁷ I am using the term "setting" and "resetting" of policy instruments instead of the term "manipulation," which has a negative annotation.

(c) To reformulate our policy concerns so as to drop for the time being efforts to influence the involved future developments and, instead, adjust to the uncontrollable.

These are extremely important conclusions with many action implications rather than resignation. Even dropping efforts to influence some future developments because we see no way by present actions to influence them, should at least be accompanied by careful monitoring of developments in order to increase probabilities of successful adjustment to the unavoidable and to be ready for interference if and when some future influencing instruments are discovered or invented.

The more the "unavoidable" future looks undesirable and the harder adjustment to it is expected to be, the more should the search for possible links between present action and those futures be pressed. Indeed, when the "unavoidable" future looks very bad, we may well be ready to reconsider basic social institutions which are usually far beyond the domain of decisions. Even "basic values" may in this way come to be regarded as policy instruments which have to be changed to handle critical future developments.⁸

Guideline No. 4. Policy-oriented future studies should deal with alternative futures of critical issues even when no relation of alternative futures to present decisions can be identified.

This is a convenient point to introduce the related but distinct problem of alternative value futures as an essential content of policy-

⁸ E.g., see Hasan Ozbekhan, "Towards a General Theory of Planning," in Erich Jantsch, ed., Perspectives of Planning, Paris, OECO, 1969, and Erich Jantsch, "From Forecasting and Planning to Policy Sciences," Policy Sciences, Vol. 1, No. 1, Spring 1970, in print.

oriented future studies. Policymaking involves choice and every choice involves value judgment. This value judgment is a political function; therefore, the requisite of value sensitivity testing of future studies [to be discussed later]. But acceptance of the right of legitimate political institutions to engage in dominant value judgment does not imply that this value judgment should not and cannot be improved. Improvement of political value judgment is a main need, to be met in part by future studies. Explicit examination of alternative futures (and their links to the present) is a main aid, by bringing out the future consequences of present value judgments. An additional and often more important contribution of future studies in this matter can be the elaboration of alternative futures of values.

Basically, preference of one alternative future over others should be determined by values relevant to the time of realization of those alternative futures. Only if one (a) expects values in the relevant future to be equal to present values, and (b) is satisfied with this state of affairs, should present values serve as criteria for shaping the future. True, determination of desirable values for the future is a matter for judgment beyond the domain of future studies. But such judgment should (a) be based on explanation of the implications for the future of alternative value judgments; (b) be considered within the context of future values as a whole. For that, it is necessary (a) to consider present value judgments as future-shaping variables; and (b) to explore alternative value futures. The first need should be met as part of examination of the relation between present decisions and alternative futures. The second need can only be met by directing future study to

explorations of alternative value futures⁹ (which themselves can be influenced through policy instruments which in turn are influenced by value choices).

Guideline No. 5. Policy-oriented future studies should engage in exploration of alternative value futures.

Closely related to Guidelines Nos. 2, 3, 4, and 5, but going beyond them, is the requirement for exploration of alternative comprehensive futures. To provide a broad future perspective for policymaking and to increase the probability that Guidelines 2, 3, 4, and 5 will indeed be satisfied, it is necessary to go beyond alternative futures of specific social institutions.¹⁰ What are also urgently needed are alternative comprehensive futures, dealing at least in outlines with all social institutions, including the future of politics and policymaking. Such alternative comprehensive futures are also essential as a framework for cross-impact analysis between the futures of different social institutions -- a subject to which I will return later on.

⁹On this problem, see Fred C. Iklé, "Can Social Predictions Be Evaluated?" Daedalus, Summer 1967, pp. 733-758; Kurt Baier and Nicholas Rescher (eds.), Value and the Future, New York: Free Press, 1969; and Irena Tavirs, "Futurology and the Problem of Values," International Social Science Journal, Vol. XXI, No. 4, 1969, pp. 574-584.

¹⁰I am using in this paper the term "social institutions" in its broadest sense, including also socially relevant features of physical reality.

Guideline No. 6. Policy-oriented future studies should try and develop alternative comprehensive futures covering all social institutions at least in outline.

Credibility of Future Studies

In order for future studies to serve as useful inputs into policy-making, they should be of high quality. This is too obvious a requirement to deserve more than pro forma notice, were it not for the related, but distinct, requirement for clear signs permitting discrimination between higher quality and lower quality future studies.

The rapid proliferation of futuristic and futurological studies and their popularity bordering on fashionability makes the necessity for visible quality recognition signals all the more urgent. Being bombarded by hundreds of predictions and prophesies, the policymaking system cannot take any of them into serious consideration without sifting the few high-quality studies from the many nonsense hallucinations. In the absence of visible quality signs, policies may quote future studies fitting their earlier arrival at conclusions, or policies may be influenced by a mass of future studies operating as a pressure variable, directly or through the mediation of mass media of communication, independent of the quality of those studies.

Because of the propensity of mass media to play up more extreme predictions of doom, there may even be a negative correlation between the quality of future studies and their impact on policymaking through pressure and opinion-shaping. Therefore, visible signs of quality are all the more essential.

The difficulties of this problem are all the more compounded because of the tendency of highly qualified and well-known scientists to make pronouncements on futures which are completely outside their competence. Such pronouncements get much attention, thanks to the prestige of their originators, with little opportunity for examination of the bases of the predictions and for careful evaluation of their reliability.

I think that unless more signs for identification of high quality future studies are developed very soon, the whole idea of future studies will be completely discredited and the chance to use future studies for policymaking improvement will be lost for many years. Therefore,

Guideline No. 7. Policy-oriented future studies must not only be of high quality, but should be easily recognizable as of high quality.

How this guideline can be realized is a difficult question, which brings us to the issues of professionalization and institutionalization of future studies. Every professionalization and institutionalization of future studies involves risks, such as some inhibition of wild ideas and some loss of contributions by brilliant individuals who do not fit institutional and professional standards. Nevertheless, for purposes of policy uses of future studies the benefits of some institutionalization and professionalization outweigh the costs. Efforts should be made to provide scope for wild ideas and unconventional brilliance within the policy-oriented future studies institutions and professions; but some institutionalization and professionalization is essential. This paper, as already stated, does not go into the details of institutionalization and professionalization of future studies. But, clearly, institutionalization and professionalization are essential for building up

systematic methodological and substantive knowledge in future studies and for training of scholars and professionals in future studies, in addition to the needs of credibility and of transformability (which is discussed in the next section). Therefore, I want to make one main point, to indicate some directions for thinking on this subject: I think that in order to achieve their potential, future studies need novel institutional and professional arrangements and designs, different from traditional university structures on one hand and traditional governmental structures on the other hand. A good precedent may be provided by parallel development in policy analysis and policy sciences as a whole. In many respects, I think that policy-oriented future studies are an integral part of policy sciences and should develop within the context of policy sciences, with due care being taken to avoid repression of some more imaginative elements of future studies by some more "rational" elements of other parts of policy sciences (such as analytical approaches). This point-of-view has implications for the concrete forms of institutionalization and professionalization of future studies, but the details go beyond the domain of this paper.¹¹

The need for and characteristics of desirable policy-oriented future studies institutionalizations and professionalizations come out clearer when we examine the problems of transformability of future studies into policymaking inputs.

¹¹For a suggestive analogue, see Yehezkel Dror, "Teaching of Policy Sciences: Design for a Doctorate University Program," Social Sciences Information, 1970, in print (earlier version RAND Paper P-4128-1, November 1969).

Transformability of Future Studies into Policymaking Inputs

When policy salient and credible future studies are available, then the issues of transformability of these studies into policy inputs is reached. This is a very complex issue involving the necessity of designing future studies so as to fit the characteristics of policymaking as a process and of policymaking units as structures, organizations, roles and human individuals. But not only the design of future studies is involved. Taking a realistic point-of-view, transformation of future studies into policymaking inputs involves also redesign of the policymaking system, so as to increase its capacity to receive inputs from future study and integrate them into the policymaking process.

A useful framework for fully considering the issues of transformability of future studies into policymaking inputs is the compartment model of general systems theory.¹² In such a compartment model, future studies and policymaking are considered as two interacting systems, which are both subsystems of society. The formulation of the problem is then how to optimize (not maximize, because too much interrelations are undesirable, for instance by undermining the autonomy of future studies, which is essential for high quality) the interactions between future studies and policymaking. Such optimization would involve changes in the future studies system, changes in the policymaking system and changes in the direct and indirect intertransport channels between these two systems.

¹²For compartment theory see A. Rescigno, "Synthesis for Multicompartment Biological Models," Biochem. Biophys. Acta., Vol. 37 (1960), pp. 463-468, and A. Rescigno and G. Serge, Drug and Tracer Kinetics (Waltham, Mass.: Blaisdell, 1966).

Enough knowledge is available for utilization of such a general systems theory compartment model in respect to other problems of the uses of knowledge for better policymaking.¹³ But I think available experience and knowledge on future studies and their possible contributions to policymaking is too meager to justify analysis in terms of such a model. Also, a general systems compartment model of future studies and policymaking requires much discussion of the policymaking systems, leading far beyond the reasonable concern of future studies into policy sciences as a whole.¹⁴ I therefore forego the use of such systematic models, preferring to proceed more tentatively and limit my observations and recommendations only to some of the features of transformability of future studies into policymaking inputs. But I will return to some implications of a general systems compartment model when I reach my concluding Guideline No. 15, which will deal with the need for broad study of the interface between future studies and policymaking.

Having tried to provide at least some glimpses of a broad view of the issues of transformability of future study into policymaking input,

¹³ See Yehezkel Dror, "A General Systems Approach to Uses of Behavioral Sciences for Better Policymaking," in Ernest O. Attinger, ed., Global Systems Dynamics (N.Y.: Karger, 1970) in press. (Earlier version: RAND Paper P-4091, May 1969.)

¹⁴ An alternative systematic approach is to take some models of preferable policymaking and to examine in respect to each phase the potential contributions of future studies and the characteristics of future studies (methodology, contents, media, structures, personnel, etc.) necessary for realizing this potential. The interested reader can try this approach with my "optimal model of public policymaking" in Yehezkel Dror, Public Policymaking Reexamined (San Francisco: Chandler, 1968), pp. 163-196.

I will take up a few concrete items belonging to this issue, namely those dealing with the required characteristics of future studies.

A minimum requirement of transformability of future studies into policymaking inputs involves communication and access:

Guideline No. 8. Policy-oriented future studies must be easy to communicate to policymakers and should meet the needs of access to policymaking.

The concrete requisites of communication and access depend on the characteristics of discrete policymaking systems. For instance, in different countries policymakers are able to absorb future studies of different levels of abstractness and in various countries channels such as party machinery or mass media can fulfill different roles in promoting communication and access of future studies to policymakers. Universal requirements include: reduction and unification of technical jargons;¹⁵ existence of standarized communication and access channels, together with sufficient looseness to prevent monopolization and to permit unconventional communication and access; and future studies formats which are easy to use for policymaking.

The question of future studies formats leads us directly into the most difficult and most important issues of transformability of future studies into policymaking inputs, and indeed of the whole cluster of issues involved in a policy sciences view of future study. These are the relations between future studies methodology and the needs of policymaking.

¹⁵ The need to unify future studies terminology is clearly brought out by Francois Hetman, The Language of Forecasting (Paris: Futuribles, 1969). This book also illustrates possibilities to explain future studies concepts in a communicable way.

Up till now we have discussed the implications of a policy orientation for future studies in respect to subjects of study, quality of study, communicability of study and access to policymakers. These are all important issues concerning the external characteristics of future studies and their general direction. But up till now we have not reached the implications of policy orientation for the main methodological issues of future studies: After a suitable subject is selected, with good arrangements for certification of quality and given a satisfactory contact with the policymaking system -- what are the requirements which a policy orientation imposes on the methodology of future studies (in addition to the already discussed need to look for links between the present and alternative futures)?

Limiting myself to more general requirements and to the role of future studies as a professional activity (in distinction, for instance, from advocacy roles of individual future scholars), the following guideline seems essential:

Guideline No. 9. Policy-oriented future studies should adjust their methodologies to the needs of policymaking. This includes, in particular:
(a) an "Alternative Futures" approach; (b) attention to cross-impacts and interdependencies between the alternative futures of different social institutions; (c) emphasis on identification of future-shaping variables; (d) examination of future developments influencing identity of variables which can serve as future policy instruments; (e) strict explication of assumptions and rigorous value-sensitivity testing.

Let me examine these recommendations one by one.

a. "Alternative Futures" approach. Policymaking involves choice between alternatives. A main potential contribution of future studies to policymaking is in enlarging the time perspective of such choice, through presentation of alternative futures (and, in accordance for Guideline No. 1, links between these alternative futures and the present). The tendency of organizations to ignore uncertainty and repress ambiguity -- which we will discuss in the next section -- reinforces the requisite that future studies should emphasize the multiple possibilities of the future. Therefore, even in the unusual case where one future has a very high probability, policy-oriented future studies should always present alternative futures -- including some low-probability and even "counter factual" ones. This should be done with explicit estimates of probabilities of the different alternative futures, with emphasis of the dependence of the probability estimates on explicated assumptions and contingencies.

b. Attention to cross-impacts and interdependencies. The fragmented structure of much of policymaking and the somewhat greater bureaucratic and political feasibility of coordination in respect to future events than on current goals make it all the more necessary for future studies to emphasize the strong interdependencies of alternative futures of different social institutions. Therefore, cross-impacts should be emphasized in policy-oriented future studies. This has an implication going beyond methodology to the subject matter of policy-oriented future studies. To provide a broad framework for examination of cross-impacts comprehensive alternative futures are necessary -- as already pointed out in Guideline No. 6.

c. Emphasis on identification of future-shaping variables. Cross-impact analysis is required to point out possible first- second- and

third-order consequences. But these same cross-impacts also enlarge the set of future-shaping variables, by adding to those variables which are endogenous to a delimited social institution. Policymaking is mainly concerned with attempts to increase the objective probability of desirable futures. Therefore, policymaking depends on identification of future-shaping variables. This is, I think, the one most important potential contribution of future studies to improved policymaking: to increase the set of identified future-shaping variables, including both variables endogenous to specific social institutions and variables exogenous to specific institutions but influencing these institutions through cross-impacts. This guideline is closely affiliated with Guideline No. 1, because we are mainly looking for future-shaping variables existing in the present. But a policy orientation is also interested in identification of future-shaping variables which themselves exist in the future -- which leads us to the next item of Guideline No. 9.

d. Examination of future developments influencing future policy variables. Policymaking is a continuous process of trying to shape the future. It includes both present decisions on action in the future, especially in the "planning" mode of policymaking, and decisions on the timing of policymaking itself, i.e., what issues to defer for decision in the future. Therefore, identification of policy instruments located in the future which can be used to influence the further future, is important for good policymaking. Policy instruments are future-shaping variables which can be set (e.g. "manipulated"). The identification of the subset of present policy instruments from the set of presently available future-shaping variables is outside the domain of future study, though future study is involved by continuing the search for future-shaping variables.

till some policy instruments can be identified or the conclusion must be reached that none can be found or invented. But the identification of future policy instruments needs the help of future studies: What is needed, in addition to identification of future-shaping variables which themselves are located in the future, are predictions of the features which will permit a future-shaping variable to serve as a policy instrument. These features include the feasibility and costs of resetting the variables.

I want to emphasize the multi-dimensionality of "feasibility and costs." Easiest (though not easy) to deal with are technological and economic feasibility and cost. Often more important and always more difficult to predict are organizational and especially political feasibility and costs. But however difficult, the future political feasibility of using various future-shaping variables as policy instruments must be investigated in order for future studies to supply essential policymaking-improvement inputs. I regard this is so important and so neglected, as to warrant emphasis as a separate guideline:

Guideline No. 10. Policy-oriented future study should explicitly deal with alternative futures of political feasibility.

Here is not the place to go into the conceptual and methodological problems of the study of the future of political feasibility.¹⁶ Let me just conclude this subject with two comments: (1) The study of the future of political feasibility is closely tied in with the study of alternative domestic politics futures, and (2) Alternative political feasibility futures, like alternative domestic politics futures as a whole, are a legitimate and indeed essential area for directed change: therefore we

¹⁶ See Yehezkel Dror, "The Prediction of Political Feasibility," Futures, Vol. 1, No. 4 (June 1969), pp. 282-288.

are also interested in identification of policy variables which determine future policy variables through changing future political feasibility. (The same applies also -- as is more recognized -- to future technological and economic feasibility.)

e. Explication of assumptions and value-sensitivity testing. This requisite is on a somewhat different level, cross-cutting all others. But it is a very important one for transformability of future study-findings into policymaking inputs. I tend to go a step further and regard this requisite as categorical imperative to be followed by future studies as a whole; certainly, for future studies as a policymaking-oriented endeavor the necessity to explicate assumptions and values should be a very strict one.

The reasons for this requisite are both moral and functional. Morally, the political components of society are entitled to exercise value judgments and to determine extra-scientific assumptions. This is the case independent from regime as long as one regards the politicians as legitimate. When one regards the politicians as illegitimate, the whole idea of contributing to policymaking gets a different slant and may be inappropriate.¹⁷ But when one works for, let us say, some counter-establishment group -- again, the right to judge values and make extra-scientific assumptions belong to whomever one regards as the legitimate decisionmakers, whether it is an individual leader or a general assembly of all members.

¹⁷ We meet here the major moral issues facing all knowledge: how to encourage utilization of knowledge for good and inhibit its uses for bad. When discussing the professionalization of future studies, safeguards against misuse of the knowledge should be considered. But I believe the solution, if one exists, can lie only in the individual moral responsibility of the man of knowledge as a conscious human being. This problem again is shared by future studies with policy sciences as a whole.

Functionally, nonexplication of values and of assumptions impairs the utility of future studies as an aid for better policymaking by repressing alternatives and reducing initial consideration of values and assumptions. Also, implied value judgment will often be perceived or at least sensed by policymakers and reduce their readiness to utilize future studies -- in my opinion, rightly so.

Were it not for the widespread tendency of many so-called future studies to introduce simplistic value judgments and naive assumptions into their "futures," it would be unnecessary to belabor what is a quite simple point. But a brief look at future studies will reveal the hidden value judgments and assumption selections implied in many of them. For instance, this basic methodological weakness is deeply rooted in city planning and its modern derivatives which take the form of "the future of the city" and "the future of environment" images.

The methodological implications discussed in this paper of a policy sciences view of future studies lead to a variety of methods, techniques, and tools necessary for their implementation. Discussion of these methods, techniques, and tools goes beyond the confines of this paper. But I want to point out the necessity to elaborate formats of future study findings which serve to present these findings in a concise form that is also convenient for policymaking purposes. Such "policy-oriented future study findings formats" therefore serve also to improve communicability and accessibility of future studies to policymaking.

Guideline No. 11. Policy-oriented future studies require formats permitting concise presentation of findings for policymaking uses.

These formats in turn shape methods, techniques, tools, and even methodologies.¹⁸ Therefore, they require careful attention and constant revision.¹⁹

Desirability of Future Studies by Policymaking System.

A distinct series of issues is posed by possible undesirability of future studies by various components of the policymaking system. The main reasons for such undesirability include possible disagreement by components of the policymaking system with policy implications of future studies and discord between the orientations and frames of appreciation of future studies and those of regular organizational and political behavior.

To be more specific, let me mention some of the factors which do operate to make future oriented studies undesirable to many of the policymaking system components:

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Especially important are methodologies which integrate future studies with policymaking. PPBS involves some such intentions, but must be supplemented with strong future-oriented elements. "Planning" is conceptually the process by which longer range views of the future should be locked in with present decisions. But contemporary public planning theory is unequipped for this task. Modern corporation planning sometimes better handles integration of future studies with present decisions, but the problems of corporation planning are much simpler than those of public planning. (On corporation planning see the comprehensive work of George A. Steiner, Top Management Planning (N.Y.: Macmillan, 1969); no comparable study of public planning is available.)

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For illustrations of attempts to build up policy-oriented methodologies, including some formats for putting future studies findings into a form suitable to serve as policymaking inputs, see Wayne Wilcox, "Forecasting Strategic Environments for National Security Decisionmaking: A Proposal and A Method" (RAND publication RM-6154-PR, forthcoming); and Figure 5 in Yehiel Dror, "Alternative Domestic Politics Futures (ADPF): Research Needs and Research Design" (RAND Paper P-4306, February 1970), p. 17.

1. Clear formulation of alternative futures and of present future-shaping variables imposes choices, which may be often nonincremental and which may require explicit judgment between competing values. Such choices may endanger essential coalitions -- in which case it may indeed be preferable to ignore those future studies. But, more often, what is endangered are not essential coalition needs but the more conventional and habit-supported ones. Also endangered are widespread political and organizational propensities to "satisfice" and to limit choices to incremental change.

2. Clear formulation of alternative futures and of present future-shaping variables draws attention to future issues and future problems and requires explicit judgment on the value of different situations dispersed in the time stream ("interest rates" -- positive, negative, multi-dimensional and discontinuous). This contradicts the usual propensity of politics and organizations to be concerned only with the present or, at best, with short-range futures -- a propensity strongly reinforced by institutions such as annual budgeting and frequent elections. (These institutions may be justified by other and more important reasons, but their negative impacts on consideration of the future should be explicitly recognized, so that some countermeasures can be designed.)

3. Clear formulation of alternative futures and of present future-shaping variables involves visible recognition of uncertainty, ambiguity, stochastic relationships, and ignorance. This contradicts strong political and organizational tendencies to ignore uncertainty, repress ambiguity, assume determinism, and make-believe that one knows what one is doing.

4. Clear formulation of alternative futures and of present future-shaping variables involves -- if they are used in policymaking -- formalization of expectations. These expectations -- even if stochastically formulated -- can serve as objective standards for appraising achievements, thus hindering political and organizational tendencies for post-decisional dissonance reduction through presentation as goals of whatever is in fact achieved. At the same time, good future studies also inhibit selection of unrealistic goals, thus disturbing arbitrary goal setting as a device of support recruitment. More justified is rejection of good future studies because they may inhibit messianic activities which are directed at very improbable goals, but which nevertheless sometimes succeed if intensely believed in and accepted with total commitment.

5. Acceptance of future studies as an important input into policymaking involves changes in the power structure of the policymaking system, with transfer of some power to future scholars. Such transfers of power are always resisted, all the more so when the recipients are an unknown and suspect group, composed of intellectuals, new types of scientists and new professionals.

To generalize, good policy-oriented future studies constitute a pressure for better policymaking and are therefore unwelcome by most of contemporary policymaking reality. The trouble here is that the better and the more convincing the future studies are, the more they will endanger established policymaking patterns and the more they will usually be undesired.

Correction of this state of affairs requires redesign and even nova-design (that is, design anew) of significant parts of the policymaking

system. This is a subject belonging to policy sciences as a whole, where future studies can play only a minor, though important part. What future studies should do is to study the political and organizational conditions of desirability of future studies by the policymaking system, an issue which well merges with study of policymaking features necessary for good communication and access by future study, and with study of policymaking features necessary for capacity to put future studies to good use for policymaking improvement. Therefore:

Guideline No. 12. Policy-oriented future study should participate, as part of policy sciences, in the study of policymaking-system characteristics necessary and sufficient to make good future studies desired and used by the policymaking system.

Guideline No. 13. In particular, policy-oriented future study should explore alternative policymaking-system futures and identify relevant future-shaping variables.

CONCLUSION

In this paper I have already hinted several times that good future studies and their utilization by the policymaking system may not always be an unmixed blessing. Disruption of essential coalitions and endangering of necessary consensus is a problem, though future studies are far away from the point of overinfluences. What really worries me is the danger of self-fulfilling prophesies and the possible discouragement of human efforts to achieve the nearly impossible. For instance, the establishment of the State of Israel is a dramatic demonstration of the ability of human devotion sometimes to realize what every good and policy-oriented

future study would have regarded sixty and perhaps even thirty years ago as nearly impossible and even absurd. I think we should be very much aware of the importance of such cases, even if they are very scarce. Therefore, self-awareness of the limitations and dangers of future studies should be an important part of good policy-oriented future studies.

Guideline No. 14. Policy-oriented future studies should carefully study the limitations and dangers (such as self-realizing effects) of even excellent future studies as an input into policymaking, explicate these limitations and dangers, and search for ways to reduce them.

On a more general level, I hope this paper at least serves to bring out some complexities of the problems of relations between policy-oriented future studies and policymaking. Whether one agrees with my main findings and recommendations or not, I think an inescapable conclusion is that policy-oriented future studies should be very self-conscious and pay much attention to their interface with policymaking. This can best be done by closely relating policy-oriented future studies to policy sciences as a whole.

Guideline No. 15. Policy-oriented future studies should pay much attention to the problems of interface between future studies and policymaking, including relevant features of the policymaking system, of the communication channels between the policymaking system and future studies, and of the content, methodology, organization and structure of future studies themselves. This should be done in close relation with policy sciences as a whole.